

contactless power for LED lighting

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iEscape

Universal remote LED emergency supply unit for LED lighting running on contactless power



iEscape is a universal remote LED emergency supply unit for LED lighting running on contactless power. iEscape works in conjunction with a large variety of standard LED fixtures and turns them into self-contained maintained emergency fixtures. The iEscape device (battery charger/monitor and current regulator) comes with an integral status indicator and is supplied with a suitably rated battery pack.

Technical Data

Rated supply current	1.9A
Supply frequency	50 kHz
Power consumption	60mW
Minimum LED forward bias Vf	3V
Maximum LED forward bias Vf	81V
Overvoltage protection	85V
Battery charging time	24 hrs
Charge current, power charge	200mA
Charge current, trickle charge	36mA
Leakage current (PE)	< 0.5mA

Compliance

according to EN 50172
according to EN 60598-2-22

Complies with:

EN62034
EN 61347-1:2008
EN61347-2-7:2006
EN 61347-2-13:2006
EN61547:2009
EN55015:2006 + A1:2007 + A2:2009
EN61000-3-2:2006 + A1:2009 + A2:2009
EN61000-3-3:2008
EN 62384
EN 60068-2-64
EN 60068-2-29
EN 60068-2-30

Casing has passed 650 °C and 850 °C
glow-wire test according to EN 60598-1

iEscape causes lower level electromagnetic
interference than conventional emergency
inverters.

Features & Benefits

- The first truly universal emergency power solution for self-contained maintained LED fixtures. iEscape is suitable for a wide range of standard (non-emergency) LED fixtures, turning both high and low power fixtures into emergency fixtures.
- Clips onto Isotera's iBus for contactless charging and does not require a separate non-switched mains connection
- Extremely long service life as iEscape doesn't contain electrolytic capacitors.
- Completely tool-free installation
- Features EN62034 compliant Self-Test and automatic Rest Mode
- Comes with an easy to install bi-colour status indicator
- Doesn't form part of the fixture, so no need to re-certify the fixture
- 3 hrs rated duration
- SELV classified (outputs LED fixture, battery, status indicator)

How It Works

In normal mode power from an Isotera iClip passes through iEscape to the LED fixture. iEscape extracts power from the iBus by contactless power transfer to charge the connected battery. In case of a mains power failure iEscape no longer detects power on the iBus and automatically switches into emergency mode, supplying the right level of power from the battery to the fixture. When mains power comes back on, iEscape recharges the battery.

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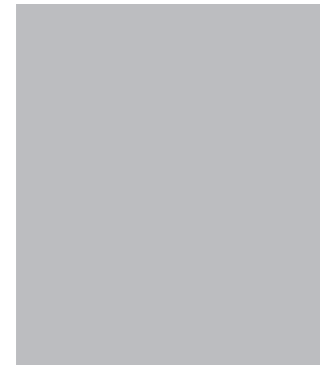


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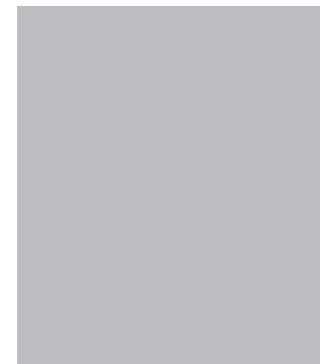
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Bi-Colour Led Status Indicator

iEscape is supplied with a bi-colour (red & green) status indicator. To make the human detection of the indicator as easy as possible high brightness wide beam angle LEDs are used. Mounting of the indicator requires a mounting hole with 9.0mm diameter, is tool-free and works with a variety of ceiling panels.



Flash patterns of LED status indicator

NOTE: IEC 60073 recommends that the status indicator LED should be Green to indicate system OK. The above table conforms to those recommendations.

Automatic Commissioning

When first connected to the powered iBus the iEscape will go through an automatic commissioning process and then start the monthly/annual Self-Test schedules at random periods in accordance with EN62034. This ensures that emergency fixtures within one location will never go into self-test at the same time.

When first powered-up iEscape goes through a 24 hour charge period. The unit then carries out a full duration test. After successfully passing this test the LED status indicator will show a healthy condition. Then the internal microprocessor starts the standard programmed Self-Test schedule.

The 24 hours recharge and automatic commissioning process also occurs if a new battery is connected or the iEscape unit comes out of the Rest Mode condition.

Self-Test

The iEscape unit will conduct self-tests in accordance with the pre-set default times in accordance with EN 62034 and as recommended in BS5266 and EN50172.

The Self-Test circuit utilises an accurate internal clock which is programmed to initiate emergency lighting tests at set intervals.

Although manual records will still be required the Self-Test system ensures that every emergency lighting luminaire and iEscape unit is fully tested and that all failures are clearly indicated via the status indicator.

Functional test

The default setting is a 3 minute test every 30 days.

Duration test

The default setting is a 30 minutes duration test conducted after 6 months and a full duration test (3 hours) once every 12 months.

Continuous monitoring

The built-in real time intelligence ensures that faults such as charge failure, battery failure etc will be indicated immediately.

Rest Mode

iEscape has an automatic Rest Mode. When the battery voltage drops below a certain threshold the battery is disconnected to avoid deep discharge. As soon as the charger circuit detects power the battery connection is automatically restored and the battery fully recharged.

Selectable Emergency Power Level

The power level of iEscape during Mains-OFF mode depends on the setting of the DIP switches on the iEscape unit.

iEscape can be set to provide 1W, 2W, 2.5W, 3W or 5W to the lamp. Alternatively, iEscape can be set to provide 10% of the normal lamp power level.

If set in "Rest Mode" iEscape will not provide any power to the lamp. This setting is optional as iEscape will go automatically into "Rest Mode" in the event of long mains outage.

Protection Features

The iEscape has a unique power regulation circuit; this is designed to limit the total power drawn from the battery in the event of using LEDs with excessively high forward voltages (Vf). In such cases the unit will reduce the LED current in order to maintain an acceptable drain current from the battery and hence meet the required duration time.

Other protection features:

- Electronic reverse polarity protection for battery
- Locking polarity controlled connector to battery pack
- Over Charge Protection
- Deep Discharge Protection
- Open Circuit Battery Detection and Protection
- Automatic protection and recovery from short circuit and open circuit loads.

Wiring

iEscape clips onto Isotera's iBus for contactless charging and does not require a separate non-switched mains connection. See wiring diagram below.

Wiring type

iBus

- iEscape clips on iBus without piercing the iBus wires. For more details see Isotera iBus datasheet.

iClip lead

- Integral to iEscape module
- 1 red and 1 black DC wire
- Lead length: [xxx] mm
- Wire type: [0.x] mm2 solid conductor
- Insulation rating: 90 °C

LED fixture lead

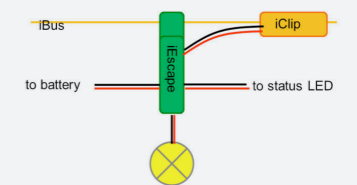
- Supplied with LED fixture
- iEscape connector for LED luminaire is identical to type used on standard iClip: tool-free, high clamp force.

Battery leads

- 1 red and 1 black DC wire
- Lead length: 1,300 mm
- Wire type: 0.8 mm2 solid conductor
- Insulation rating: 90 °C

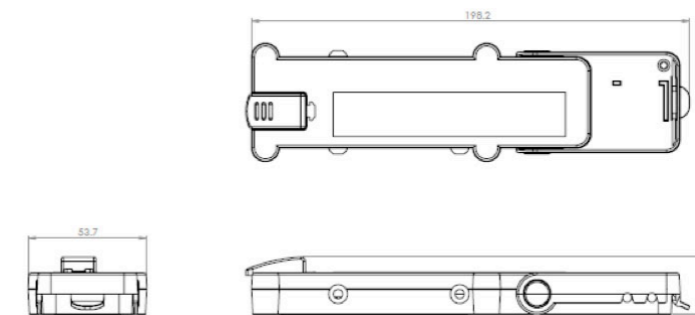
Status indicator lead

- 1 red and 1 black DC wire
- Lead length 1,000 mm
- Wire type: 0.5 mm2 solid conductor
- Insulation rating: 90 °C



Mechanical Data

Dimensions (LxWxH): 198.2 x 53.7 x 26mm,
Low-profile casing, fits through Ø60mm hole
Weight (excl. Battery pack): [xxx] gr
Case manufactured from polycarbonate.



Part Numbers

iEscape comes in 2 versions: one that operates with Nickel Cadmium batteries and one with Nickel Metal Hydride batteries.

Description

iEscape for NiCd battery

iEscape for NiMH battery

Accessories

Batteries

Isotera Part Number

SAFT NICD "VNT D U"

SAFT NIMH "VHT 7/5 Cs U"

Technical data battery

Battery warranty period: For both SAFT NiCd (VNT D U) or NiMH (VHT 7/5 Cs U): 4 years *

*) Case temperature to stay below +55 °C

Environmental

Normal Operating Temperature Range

0°C to +40°C

Storage temperature

-18°C to +40°C

Max. case temperature Tc: 70 °C

Ingress protection: IP20

The specifications contained herein are believed to be correct at the time of publication and are subject to change without notice.